

1           1.     A breakaway buckle for providing a releasable connection between a first strap  
2     and a second strap extending along an axis disposed laterally with respect to the first strap, said  
3     buckle comprising:

4                 a keeper attachable to the first of said straps, said keeper having a  
5                     bottom wall cooperating with side walls to define a receiving  
6                     channel alignable with said axis and extending from an open front  
7                     end to a rear end closed by a back wall, a lever integrally joined to and  
8                     projecting from said back wall to overlie said channel, said lever having a  
9                     first locking surface and being resiliently deflectable between a normally  
10                    closed lowered position and a raised position with respect to said bottom  
11                    wall;

12                a secure attachable to said second strap, said secure having a tongue with a  
13                    second locking surface, said tongue being configured and dimensioned  
14                    for insertion into said receiving channel through the open front  
15                    end thereof and into a seated position against said back wall and  
16                    beneath said lever, said lever being deflectable from said  
17                    lowered to said raised position in response to entry of said tongue  
18                    into said channel, and, in response to arrival of said tongue at its  
19                    seated position, being resiliently returnable to said lowered  
20                    position with said first locking surface coacting in an interlocked  
21                    abutting relationship at an area of overlap with said second  
22                    locking surface to thereby resist withdrawal of said  
23                    tongue from said channel;

24 first and second cam surfaces located respectively on said keeper and said  
25 secure, said cam surfaces being arranged to coact in decreasing  
26 said area of overlap in response to lateral and/or twisting  
27 movement of said secure relative to said keeper, thereby  
28 facilitating axial withdrawal of said tongue from said channel; and  
29 means for manually deflecting said lever from said lowered to said raised  
30 positions.

1 2. The buckle of claim 1 wherein the width of said channel is greater than the width  
2 of said tongue.

1 3. The buckle of claim 1 wherein said lever and said tongue are provided  
2 respectively with first and second ramp surfaces, said ramp surfaces being arranged to coact in  
3 sliding engagement during entry of said tongue into said channel to thereby resiliently deflect  
4 said lever from said closed position to said raised position.

1 4. The buckle as claimed in claim 1 wherein said secure includes a base attachable to  
2 said second strap, and wherein said tongue comprises parallel laterally spaced legs projecting  
3 from said base, said legs being connected at their distal ends by a front rib and by an  
4 intermediate rib at a location spaced between said front rib and said base.

1 5. The buckle as claimed in claim 4 wherein the back wall of said keeper includes an  
2 abutment arranged to bear against said front rib when said tongue is in its seated position.

1           6.       The buckle as claimed in claim 4 wherein said second locking surface is located  
2 on said intermediate rib.

1           7.       The buckle as claimed in claim 1 wherein, as viewed in a direction transverse to  
2 said channel, said first locking surface is downwardly convex and said second locking surface is  
3 upwardly convex.

1           8.       The buckle as claimed in claim 1 wherein, as viewed in plan, said first and second  
2 locking surfaces coact in a convex/concave relationship.

1           9.       The buckle as claimed in claim 2 wherein said first and second cam surfaces are  
2 arranged in mating pairs on opposite sides of the center of said channel.

1           10.      The buckle as claimed in claim 9 wherein said mating pairs of cam surfaces coact  
2 along oppositely inclined interfaces to thereby resiliently align said tongue with the center of said  
3 channel.